

PREVIEW QUESTION BANK(Dual)

Module Name : Junior Engineer Electrical
Exam Date : 27-Mar-2021 Batch : 12:30-14:30

Sr. No.	Client Question ID	Question Body and Alternatives	Marks	Negative Marks
Objective Question				
1	1	What is the full form of 'AIIB', a new multilateral financial institution? A1 Asean Infrastructure Investment Bank : A2 Asian Infrastructure Investment Bank – (Correct Alternative) : A3 Asian Infrastructure Institutional Bank : A4 African Infrastructure Investment Bank :	1.0	0.25
Objective Question				
2	2	When did 'French Revolution' begin? A1 1810 : A2 1850 : A3 1789 – (Correct Alternative) : A4 1860 :	1.0	0.25
Objective Question				
3	3	In tribal polity, the officer who enjoyed authority over a large land or pasture ground is called _____. A1 Vrajapati – (Correct Alternative) : A2 Sukthams : A3 Bhashyams : A4 Upanishad :	1.0	0.25
Objective Question				
4	4	Which of the following productions refers to 'Pink Revolution' in Indian Economy? A1 Onion – (Correct Alternative) : A2 Wool : A3 Milk	1.0	0.25

		: A4 Agriculture :		
Objective Question				
5	5	Which of the following taxes does not fall under 'Direct Tax'? A1 Expenditure Tax : A2 Income Tax : A3 Goods and Services Tax – (Correct Alternative) : A4 Wealth tax :	1.0	0.25
Objective Question				
6	6	The Similipal National Park is located in which state? A1 Gujarat : A2 West Bengal : A3 Odisha – (Correct Alternative) : A4 Maharashtra :	1.0	0.25
Objective Question				
7	7	Who among the following has won the elections and became the Prime Minister of Malta? A1 Chris Fearne : A2 Joseph Muscat : A3 Robert Abela – (Correct Alternative) : A4 Ian Borg :	1.0	0.25
Objective Question				
8	8	Which state in India shares Maritime International border with Sri Lanka? A1 Gujarat : A2 Tamil Nadu – (Correct Alternative) : A3 Kerala : A4 Andhra Pradesh :	1.0	0.25

Objective Question				
9	9	Who has won the Sir Garfield Sobers Trophy for Best Cricketer of the Year in ICC annual awards 2019? A1 David Warner A2 Joe Root A3 Jos Buttler A4 Ben Stokes – (Correct Alternative)	1.0	0.25
Objective Question				
10	10	Recently, who among the following cricketers won "ICC Spirit of Cricket Award of the Decade"? A1 Kane Williamson A2 Mahendra Singh Dhoni – (Correct Alternative) A3 Virat Kohli A4 Steve Smith	1.0	0.25
Objective Question				
11	11	Fill in the blank with the appropriate article a, an, or the, or select the option ‘No article’ if no article is needed. Rubin has _____ terrible leg pain. A1 a – (Correct Alternative) A2 an A3 the A4 No article	1.0	0.25
Objective Question				
12	12	Fill in the blank with the appropriate article a, an, or the, or select the option ‘No article’ if no article is needed. I need _____ English book. A1 a A2 an – (Correct Alternative) A3 the A4 No article	1.0	0.25
Objective Question				
13	13	Fill in the blanks with suitable Preposition from the given alternatives. Several cities have dramatically improved their air quality _____ recent years.	1.0	0.25

		A1 on : A2 in – (Correct Alternative) : A3 along : A4 except :		
Objective Question				
14	14	Fill in the blanks with suitable Preposition from the given alternatives. The river Ganges flows _____ Uttar Pradesh. A1 against : A2 through – (Correct Alternative) : A3 owing to : A4 as far as :	1.0	0.25
Case Study from Question No. 16 to Question No. 18				
15	15	Read the following passage and answer the questions that follow. The Amazon rainforest, the largest of its kind in the world, is ablaze, with over 9,500 distinct fires burning through its main basin since August 15. Overall, Brazil has seen more than 76,000 fires ravage the Amazon in 2019, of which around 10,000 have been started in the past few weeks, mainly by loggers and farmers seeking, as they do during the summer months, to clear vast tracts for agricultural or industrial use. However, this annual exercise of planned deforestation appears to have crossed a tipping point this year. There has been an increase of at least 80% in the number of recorded fires compared to the same period in 2018, according to Brazil’s National Institute for Space Research (INPE). This week, images of darkening skies above Sao Paulo, more than 2,700 km away from the fires, went viral. The number and intensity of the fires are closely linked to the rate of deforestation. Some reports estimate that in July 2019, the Amazon shrunk by 1,345 sq km, up 39% from the same month last year, and a historical record. The flames are not confined just to Brazil either. In neighbouring Bolivia, deadly blazes are devastating forests and farmlands, so much so, that its President, Evo Morales, has put his re-election campaign on hold over the weekend, and, unlike his Brazilian counterpart Jair Bolsonaro, was quick to welcome foreign aid to help fight the fires. The distinctly political undertones of the crisis in Brazil sets it apart. Mr. Bolsonaro’s critics say that his economic and environmental policies have virtually set the stage for intensifying degradation of the Amazon’s rich biodiversity. They argue that since he came to power this year, he has chipped away at the protections that the rainforest enjoyed, including by weakening the environment ministry when he made Ricardo Salles, found guilty of administrative improprieties for altering a map to benefit mining companies, the Environment Minister; by driving away Norway and Germany, principal donors who have backed protections for the Amazon; by sacking the head INPE over absurd allegations that he was disclosing how rapidly Amazon deforestation was happening; and by attacking both environmental charities, alleging without proof that they started fires to serve certain foreign interests, and indigenous Amazon dwellers. Under intense global pressure, including from the ongoing G-7 meetings of world leaders, Mr. Bolsonaro, a right-wing climate-change sceptic, appears to have relented to an extent, and has authorised 44,000 military troops to help with the firefighting efforts. Even if they succeed, and the Bolsonaro administration ultimately bends to global outrage over the destruction of a critical global ecosystem, the discernible shift in Brazilian public institutions responsible for guarding the future of the Amazon rainforest is a worrying sign of worse things to come.	3.0	0.75
16	16	Which is closely linked to the increase in intensity and number of fires? A1 Cooking inside the forest : A2 Exponential increase in population : A3 Rate of deforestation – (Correct Alternative) : A4 All the above :	1.0	0.25
17	17	Which one of the following most accurately summarizes the main point of the passage? A1 Bolivia is helping more to control the situation :	1.0	0.25

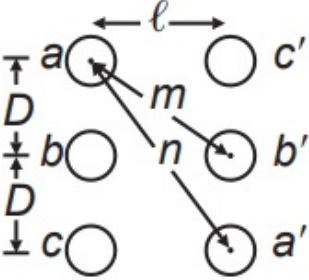
		A2 : Brazil's Agriculture will be improved A3 : The fires can be viewed from some other major cities A4 : Increasing Number of Fires are major threat to Amazon's rich Biodiversity – (Correct Alternative)		
18	18	What is the contextual meaning of the highlighted word 'Sacking'? A1 : Engage A2 : Dismiss – (Correct Alternative) A3 : Reserve A4 : Immerse	1.0	0.25
Objective Question				
19	19	Choose the word which best expresses the similar meaning of the given word " EQUIVOCATION ". A1 : Certainty A2 : Ambiguity – (Correct Alternative) A3 : Honesty A4 : Uprightness	1.0	0.25
Objective Question				
20	20	Find the suitable antonym for the given word " SERVILE ". A1 : Humble A2 : Aggressive – (Correct Alternative) A3 : Abject A4 : Passive	1.0	0.25
Objective Question				
21	21	Choose the one which can be substituted for the given word/sentence. An animal that lives in a group. A1 : Panacea A2 : Horizon A3 : Oculist	1.0	0.25

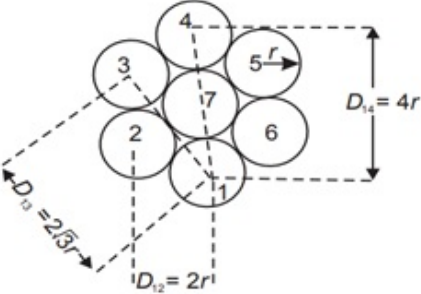
		A4 : Gregarious – (Correct Alternative)		
Objective Question				
22	22	If $A = \begin{bmatrix} 3 & -1 & 1 \\ -1 & 5 & -1 \\ 1 & -1 & 3 \end{bmatrix}$, the eigen values of A is A1 : 2, -1, -2 A2 : 2, 4, 4 A3 : 1, 2, 3 A4 : 2, 3, 6 – (Correct Alternative)	1.0	0.25
Objective Question				
23	23	The radius of curvature of the curve $y = e^x$ at the point (0,1) is A1 : $\sqrt{2}$ A2 : $4\sqrt{2}$ A3 : $2\sqrt{2}$ – (Correct Alternative) A4 : $3\sqrt{2}$	1.0	0.25
Objective Question				
24	24	If $u = f(x - y, y - z, z - x)$, then $\frac{\partial u}{\partial x} + \frac{\partial u}{\partial y} + \frac{\partial u}{\partial z} =$ A1 : 2 A2 : u A3 : 0 – (Correct Alternative) A4 : 2u	1.0	0.25
Objective Question				
25	25	The value of $\sqrt[3]{x}$ at $x = 0$ is A1 : 0 A2 : 1 A3 : ∞ – (Correct Alternative)	1.0	0.25

		A4 : $\sqrt{\pi}$		
Objective Question				
26	26	The complementary function of $x^2y'' + 4xy' + 2y = e^x$ is A1 : $\frac{A}{x} - \frac{B}{x^2}$ A2 : $\frac{A}{x} + \frac{B}{x^2}$ – (Correct Alternative) A3 : $\frac{A}{x} + \frac{B}{x^3}$ A4 : $\frac{A}{x^3} + \frac{B}{x^2}$	1.0	0.25
Objective Question				
27	27	The value of $\int_c \frac{z}{z+2} dz$, where C is the circle $z = 1$ is equal to A1 : 1 A2 : -1 A3 : 0 – (Correct Alternative) A4 : π	1.0	0.25
Objective Question				
28	28	The value of $L\{t\cosh at\}$ is A1 : $\frac{s^2 + a^2}{(s^2 + a^2)^2}$ A2 : $\frac{s^2 + a^2}{(s^2 - a^2)^2}$ – (Correct Alternative) A3 : $\frac{s^2 - a^2}{(s^2 - a^2)^2}$ A4 : $\frac{s^2 - a^2}{(s^2 + a^2)^2}$	1.0	0.25
Objective Question				
29	29	The constant term in the Fourier series of the function $f(x) = k, 0 < x < 2\pi$ is A1 : 2k A2 : 4k A3 : k – (Correct Alternative)	1.0	0.25

		: A4 -2k :		
Objective Question				
30	30	The Fourier sine transform of $\frac{1}{x}$ is A1 : $\sqrt{\frac{\pi}{4}}$ A2 : $\sqrt{\frac{\pi}{2}}$ – (Correct Alternative) A3 : $-\sqrt{\frac{\pi}{4}}$ A4 : $-\sqrt{\frac{\pi}{2}}$	1.0	0.25
Objective Question				
31	31	The partial differential equation obtained by eliminating the arbitrary constants from $z = ax + by$ is A1 : $z = qx - py$ A2 : $z = px - qy$ A3 : $z = px + qy$ – (Correct Alternative) A4 : $z = qx + py$	1.0	0.25
Objective Question				
32	32	Consider the following statements and choose the correct option. Statement 1: The fuse rating is expressed in terms of current. Statement 2: The fuse wire in DC circuit is inserted in negative circuit only. A1 : Both Statement 1 and Statement 2 are TRUE A2 : Both Statement 1 and Statement 2 are FALSE A3 : Statement 1 is TRUE and Statement 2 is FALSE – (Correct Alternative) A4 : Statement 1 is FALSE and Statement 2 is TRUE	1.0	0.25
Objective Question				
33	33	Statement 1: The sphere-gap will protect the transmission lines and transformers against transient overvoltage wave of any duration. Statement 2: Sphere gaps are used to measure AC voltage only. A1 : Both Statement 1 and Statement 2 are TRUE A2 : Both Statement 1 and Statement 2 are FALSE	1.0	0.25

		A3 : Statement 1 is TRUE and Statement 2 is FALSE – (Correct Alternative) A4 : Statement 1 is FALSE and Statement 2 is TRUE		
Objective Question				
34	34	Pre-insertion resistor with circuit breaker is used to A1 : decrease the peak of restriking voltage and the rate of rise of recovery voltage – (Correct Alternative) A2 : increase the peak of restriking voltage and the rate of rise of recovery voltage A3 : decrease the peak of restriking voltage and increase the rate of rise of recovery voltage A4 : increase the peak of restriking voltage and decrease the rate of rise of recovery voltage	1.0	0.25
Objective Question				
35	35	A circuit breaker is rated at 1500 amps, 2000 MVA, 33 kV, 3 sec, 3- phase, oil circuit breaker. Determine the breaking current and making current. A1 : 60.60 kA and 89.25 kA A2 : 35 kA and 89.25 kA – (Correct Alternative) A3 : 49.5 kA and 85.7 kA A4 : 28.5 kA and 85.7 kA	1.0	0.25
Objective Question				
36	36	In a short circuit test on a circuit breaker, the following readings were obtained on a single frequency transient: (i) Time to reach the peak restriking voltage =50 μs; (ii) the peak restriking voltage = 200 kV. Determine the average rate of rise of recovery voltage (RRRV) and the frequency of oscillation. A1 : 2 kV/μs, 10 kHz A2 : 2 kV/ μs, 20 kHz A3 : 4 kV/ μs, 10 kHz – (Correct Alternative) A4 : 4 kV/μs, 20 kHz	1.0	0.25
Objective Question				
37	37	The self GMD of the conductor with three strands, each of radius ‘r’ and touching each other is A1 : 1.46r – (Correct Alternative) A2 : 2.34r A3 : 0.7788r	1.0	0.25

		A4 : 4.67r		
Objective Question				
38	38	A 3-phase line is designed with an equilateral spacing of 16 m. It is decided to build the line with horizontal spacing. The conductors are transposed. The spacing between the adjacent conductors is found to be ‘x’ m to obtain the same inductance as in the original design. What is the value of ‘x’? A1 : x = 10.3 m A2 : x = 11.2 m A3 : x = 12.7 m – (Correct Alternative) A4 : x = 13.5 m	1.0	0.25
Objective Question				
39	39	Calculate the capacitance of a conductor per phase of a three-phase 400 km long line, with the conductors spaced at the corners of an equilateral triangle of side 4 m and the diameter of each conductor being 2.5 cm. A1 : 8.352 μF A2 : 5.832 μF A3 : 3.852 μF – (Correct Alternative) A4 : 2.835 μF	1.0	0.25
Objective Question				
40	40	Determine the capacitance per km per phase for the conductor arrangement of three-phase double-circuit transposed line shown in Fig. The radius of each conductor is 'r' m.  A1 : $C = \frac{1}{3 \ln \left\{ 2^{1/3} \frac{D}{r} \left(\frac{m}{n} \right)^{2/3} \right\}} \mu F / km$ A2 : $C = \frac{1}{9 \ln \left\{ 2^{1/3} \frac{D}{r} \left(\frac{m}{n} \right)^{2/3} \right\}} \mu F / km$ – (Correct Alternative) A3 : $C = \frac{1}{9 \ln \left\{ 2^{1/3} \frac{D}{r} \left(\frac{n}{m} \right)^{2/3} \right\}} \mu F / km$ A4 :	1.0	0.25

		$C = \frac{1}{3 \ln \left\{ 2^{1/3} \frac{D}{r} \left(\frac{n}{m} \right)^{2/3} \right\}} \mu F / km$		
Objective Question				
41	41	Each strand, in a 19-strand conductor, is of equal diameter and has an inductance of L H/m. The total inductance of the stranded conductor is represented by A1 19L : A2 L/81 : A3 L/19 – (Correct Alternative) : A4 L/361 :	1.0	0.25
Objective Question				
42	42	Find the ratio of GMR to overall conductor radius of a stranded conductor having seven identical strands each of radius r as shown in Fig.  A1 0.7257 – (Correct Alternative) : A2 0.4257 : A3 1.3127 : A4 2.177 :	1.0	0.25
Objective Question				
43	43	Which of the following range of wind speed are suitable to operate wind turbines? A1 30 – 55 m/s : A2 20 – 45 m/s : A3 10 – 35 m/s : A4 5 – 25 m/s – (Correct Alternative) :	1.0	0.25
Objective Question				
44	44	A photocell has a short circuit current of 25 mA, an open circuit voltage of 0.8 V and a maximum power output of 15 mW. What is its fill factor? A1 90% : A2 85% :	1.0	0.25

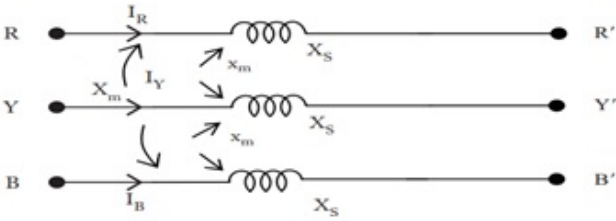
		: A380% : A475% – (Correct Alternative) :		
Objective Question				
45	45	The SVC and STATCOM are_____ devices. A1Shunt connected – (Correct Alternative) : A2Series connected : A3Combined series-series connected : A4Combined serie-shunt connected :	1.0	0.25
Objective Question				
46	46	The Thevenin's equivalent voltage and reactance of a power system with respect to a node at which the static VAR compensator (SVC) is placed are 0.99 pu and 0.6 pu respectively. The SVC reference voltage and slope reactance are 1.04 pu and 0.03 pu respectively. Calculate the current injected by the SVC. A1ISVC = - 0.0479 pu : A2ISVC = - 0.0794 pu – (Correct Alternative) : A3ISVC = 0.0834 pu : A4ISVC = -0.0635 pu :	1.0	0.25
Objective Question				
47	47	As per CERC regulations, the time block of each for which special energy meters record values of specified electrical parameters with first time block starting at 00.00 Hrs. A15 minutes : A210 minutes : A315 minutes – (Correct Alternative) : A430 minutes :	1.0	0.25
Objective Question				
48	48	A 100 MVA, 11 kV, 3-phase, star connected generator has $X_1 = 35\%$, $X_2 = 30\%$, $X_0 = 15\%$ and feeds a line of $X_1 = X_2 = 5\%$ and $X_0 = 10\%$. The fault current for a 3-phase fault at line end is _____ A113.12 kA – (Correct Alternative) : A20.476 kA :	1.0	0.25

		A3 3.636 kA :		
		A4 10.49 kA :		

Objective Question

49	49	A 3-phase 100 MVA, 10 kV alternator has 5% reactance. Find the external reactance per phase to be connected in series with the alternator so that three-phase short-circuit current does not exceed eight times the full load current. A1 7.5 Ω/phase : A2 0.75 Ω/phase : A3 0.075 Ω/phase – (Correct Alternative) : A4 0.0075 Ω/phase :	1.0	0.25
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Objective Question

50	50	Consider a fully transposed 3-phase transmission line, having self reactance of each line as X_s and mutual reactance between the lines as X_m as shown in Fig. The positive and negative sequence impedance of the line respectively are  A1 $Z_1 = j(X_s - X_m)$ and $Z_2 = j(X_s - X_m)$ – (Correct Alternative) : A2 $Z_1 = j(X_s + X_m)$ and $Z_2 = j(X_s + X_m)$: A3 $Z_1 = j(X_s - 3X_m)$ and $Z_2 = j(X_s - X_m)$: A4 $Z_1 = j(X_s + 3X_m)$ and $Z_2 = j(X_s + X_m)$:	1.0	0.25
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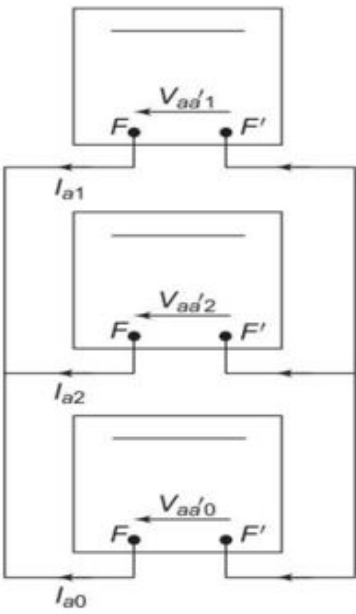
Objective Question

51	51	The positive, negative and zero sequence impedances of a 200 MVA, three-phase, 15 kV, star-grounded, 50 Hz generator are j0.15 pu, j0.1 pu and j0.02 pu respectively on the machine rating base. The machine is unloaded and working at the rated terminal voltage. If the grounding impedance of the generator is j0.01 pu, then the magnitude of fault current for a b-phase to ground fault is _____ A1 76.98 kA – (Correct Alternative) : A2 82.48 kA : A3 85.53 kA : A4 88.82 kA :	1.0	0.25
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Objective Question

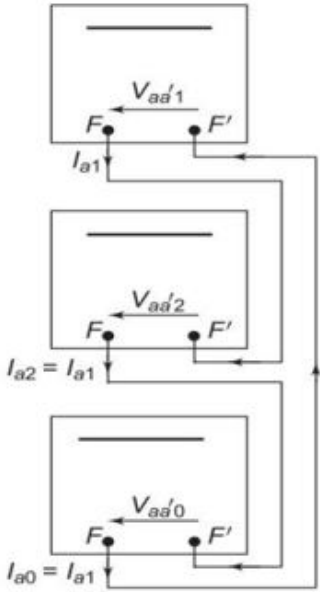
Which of the following Fig. represent the connection of sequence networks for one conductor open?

A1
:

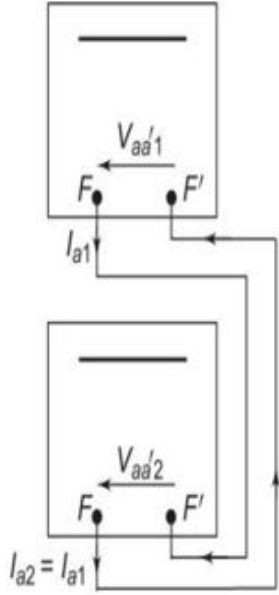


– (Correct Alternative)

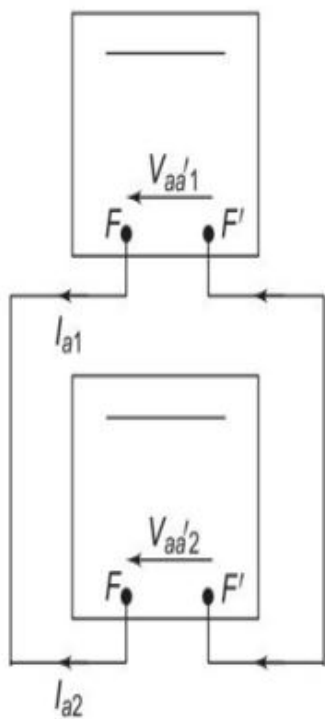
A2
:



A3
:



A4
:



Objective Question

53	53	A star-connected balanced load draws a current of 25A per phase when connected to a 440V supply. Determine the 3-phase apparent power. A1 : 9 kVA A2 : 11 kVA A3 : 15.55 kVA A4 : 19.05 kVA – (Correct Alternative)	1.0	0.25
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Objective Question

54	54	In a balanced delta-connected system, the magnitude of line current is times the phase current and it lags the phase current by A1 : 3, 30⁰ A2 : 3, 60⁰ A3 : $\sqrt{3}$, 30⁰ – (Correct Alternative) A4 : $\sqrt{3}$, 60⁰	1.0	0.25
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Objective Question

55	55	A symmetrical three-phase three-wire 440 V supplies to a star-connected load. The impedances in each branch of a star-connected load are $Z_R = (2 + j3) \Omega$, $Z_Y = (1 - j2) \Omega$ and $Z_B = (3 + j4) \Omega$. Find its equivalent delta-connected load using star-delta transformation. A1 : $Z_{RY} = (5.23 - j0.85) \Omega$, $Z_{YB} = (3.8 - j0.4) \Omega$ and $Z_{BR} = (-3 + j8) \Omega$ A2 : $Z_{RY} = (3.8 - j0.4) \Omega$, $Z_{YB} = (5.23 - j0.85) \Omega$ and $Z_{BR} = (-3 + j8) \Omega$ – (Correct Alternative) A3 : $Z_{RY} = (5.23 - j0.85) \Omega$, $Z_{YB} = (-3 + j8) \Omega$ and $Z_{BR} = (3.8 - j0.4) \Omega$	1.0	0.25
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		A4 $Z_{RY} = (-3 + j8) \, \Omega$, $Z_{YB} = (3.8 - j0.4) \, \Omega$ and $Z_{BR} = (5.23 - j0.85) \, \Omega$:		
Objective Question				
56	56	In two wattmeter method of power measurement, one wattmeter reading is negative when power factor angle is _____ than _____. A1 lesser, 60 degree : A2 lesser, 45 degree : A3 greater, 60 degree – (Correct Alternative) : A4 greater, 45 degree :	1.0	0.25
Objective Question				
57	57	In two-wattmeter method, the readings of wattmeter for a balanced load are, $P_1 = 800 \, \text{W}$, $P_2 = 600 \, \text{W}$. What is the reactive power of the load? A1 346 VAR – (Correct Alternative) : A2 600 VAR : A3 692 VAR : A4 1200 VAR :	1.0	0.25
Objective Question				
58	58	A 3 phase, 30 kW Induction Motor has a power factor of 0.8 lagging. What size of Capacitor in kVAR is required to improve the power factor to 0.95 with constant supply voltage? A1 5 kVAR : A2 9.5 kVAR : A3 13 kVAR – (Correct Alternative) : A4 22 kVAR :	1.0	0.25
Objective Question				
59	59	A current-commutated chopper is fed from a DC source of 220 V. Its commutating components are $L = 25 \, \mu\text{H}$ and $C = 55 \, \mu\text{F}$. If load current of 200 A is assumed constant during the commutation process, the peak commutating current ' I_{cp} ' is A1 296.65 A : A2 326.31 A – (Correct Alternative) : A3 419.52 A : A4 461.47 A :	1.0	0.25

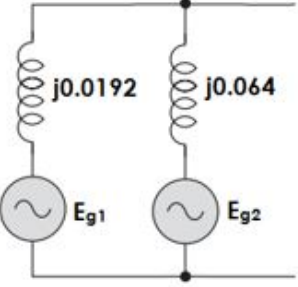
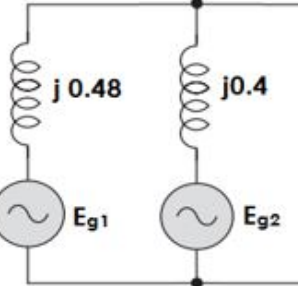
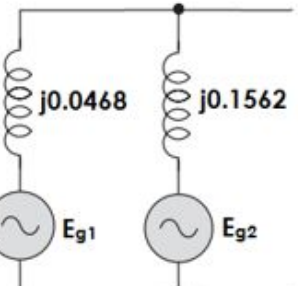
Objective Question

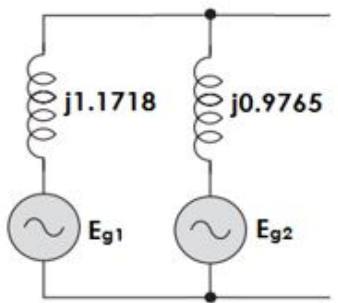
60	60	A transmission line has a reactance of 1 pu is operating at $V_s = V_r = 1$ pu. The generator is connected at source end which is delivering 1 pu of active power and the transmission line is compensated with a series capacitance of 0.5 pu. Find the load angle with series capacitance compensation? A1 : 30 degree – (Correct Alternative) A2 : 45 degree A3 : 60 degree A4 : 90 degree	1.0	0.25
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Objective Question

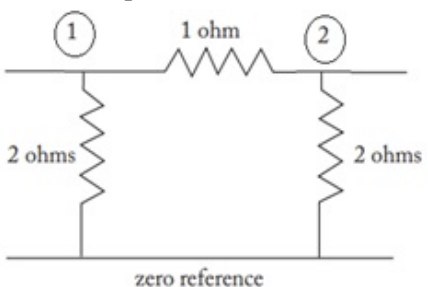
61	61	The per unit impedance of the circuit element is j0.25. If the base kV is halved and base MVA is doubled, then the new value of the per unit impedance of the circuit element will be A1 : j0.5 A2 : j0.125 A3 : j2 – (Correct Alternative) A4 : j0.03125	1.0	0.25
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Objective Question

62	62	Two generators are connected in parallel whose ratings are as follows: G1: 100 MVA, 12 kV, $X_{g1} = 0.15$ pu G2: 200 MVA, 12 kV, $X_{g2} = 0.25$ pu Draw the per unit reactance diagram on a base of 500 MVA and 15 kV. A1 :  A2 :  – (Correct Alternative) A3 : 	1.0	0.25
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		A4 : 		
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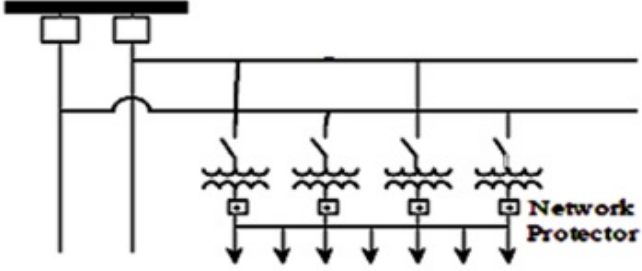
Objective Question

63	63	The bus impedance matrix for the simple two bus system shown in Fig. is  A1 : $Z_{bus} = \begin{bmatrix} \frac{5}{6} & \frac{4}{5} \\ \frac{4}{5} & \frac{5}{6} \end{bmatrix}$ A2 : $Z_{bus} = \begin{bmatrix} \frac{5}{6} & \frac{3}{5} \\ \frac{3}{5} & \frac{5}{6} \end{bmatrix}$ A3 : $Z_{bus} = \begin{bmatrix} \frac{6}{5} & \frac{3}{5} \\ \frac{3}{5} & \frac{6}{5} \end{bmatrix}$ A4 : $Z_{bus} = \begin{bmatrix} \frac{6}{5} & \frac{4}{5} \\ \frac{4}{5} & \frac{6}{5} \end{bmatrix} \text{ -- (Correct Alternative)}$	1.0	0.25
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Objective Question

64	64	Consider the following statements and choose the correct option. Statement 1: The transient stability limit of a power system can be increased by series capacitance compensation. Statement 2: The critical clearing time of a fault in power system is related to steady-state stability limit. A1 : Both Statement 1 and Statement 2 are TRUE A2 : Both Statement 1 and Statement 2 are FALSE A3 : Statement 1 is TRUE and Statement 2 is FALSE -- (Correct Alternative) A4 : Statement 1 is FALSE and Statement 2 is TRUE	1.0	0.25
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Objective Question

65	65	The distribution system configuration shown in Fig. is  A1 Primary Selective : A2 Secondary Selective : A3 Grid network : A4 Spot network – (Correct Alternative) :	1.0	0.25
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Objective Question

66	66	The equivalent Thevenins bus admittance matrix of a two-bus system with identical generators on both buses is $\begin{bmatrix} -j30 & +j10 \\ +j10 & -j30 \end{bmatrix}$ The generator reactance and interconnecting line reactance will be respectively A1 j0.1 and j0.05 : A2 j0.05 and j0.1 – (Correct Alternative) : A3 j0.05 and -j0.1 : A4 j0.1 and -j0.05 :	1.0	0.25
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Objective Question

67	67	A 15-bus power system consists of five generator buses indexed as G1, G2, G3, G4, G5 and ten load buses indexed as L1, L2, L3, L4, L5, L6, L7, L8, L9, L10. The generator bus G1 is considered as slack bus, and the load buses L2, L7 and L8 are voltage controlled buses. The generator at bus G3 cannot supply the required reactive power demand, and hence it is operating at its maximum reactive power limit. The number of non-linear equations required for solving the load flow problem using Newton-Raphson method in polar form is _____ A1 16 : A2 18 : A3 22 – (Correct Alternative) : A4 24 :	1.0	0.25
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Objective Question

68	68	A 3-phase bank of three single-phase transformer are fed from 3-phase 33 kV (line-to-line). It supplies a rated load of 6000 kVA at 11 kV (line-to-line). Both supply and load are 3-wire. Calculate the voltage and kVA rating of the single-phase transformer for Star(Y)-Star(Y) connection. A1 19.05 kV / 6.35 kV, 2000 kVA – (Correct Alternative) : A2 33 kV / 11 kV, 2000 kVA :	1.0	0.25
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		A319.05 kV / 6.35 kV, 6000 kVA : A433 kV / 11 kV, 6000 kVA :		
Objective Question				
69	69	Two similar 250 kVA single phase transformers gave the following results when tested by back to back method: Mains wattmeter, W1 = 5 kW Primary series circuit wattmeter, W2 = 7.5 kW (at full load current) Find out the individual transformer efficiency at 75% full load and 0.8 power factor leading. A194.07% : A295.04% : A396.03% : A497.02% – (Correct Alternative) :	1.0	0.25
Objective Question				
70	70	A power system has two synchronous generators. The governor-turbine characteristics corresponding to the generators are: $P_1 = 50 (50 - f)$; $P_2 = 100 (51.5 - f)$ Where f denotes the system frequency in Hz and P₁ and P₂ are respectively, the power outputs (in MW) of turbines 1 and 2. Assume that the generators and transmission network are lossless. Find out the percentage load shared by generator 2 if the total load is 600 MW. A125% : A250% : A366.67% : A475% – (Correct Alternative) :	1.0	0.25
Objective Question				
71	71	Statement 1: String efficiency of an insulator is inversely proportional to the square root of the number of insulator disc units. Statement 2: Capacitance grading is achieved by increasing the capacitances of each unit from the tower end towards the line end. A1Both Statement 1 and Statement 2 are TRUE : A2Both Statement 1 and Statement 2 are FALSE : A3Statement 1 is TRUE and Statement 2 is FALSE : A4Statement 1 is FALSE and Statement 2 is TRUE – (Correct Alternative) :	1.0	0.25
Objective Question				
72	72	A string of three suspension insulators is to be fitted with a grading ring. If the pin to earth capacitances are equal to C, then the value of line to pin capacitance of first and last capacitance(from top) is A1C₁ = C/2 and C₂ = C :	1.0	0.25

		A2 : C₁ = C/2 and C₂ = 2C – (Correct Alternative) A3 : C₁ = C and C₂ = 2C A4 : C₁ = C/4 and C₂ = 4C		
Objective Question				
73	73	For a generating unit, the fuel input in millions of Btu/hr is expressed as a function of output P_G in MW by 0.035 P_G² + 6.5 P_G + 150. The fuel cost is Rs.2 per million Btu. Determine the average cost of fuel per MWhr when P_G = 200 MW. A1 : 24.5 Rs/MWhr A2 : 26.5 Rs/MWhr A3 : 28.5 Rs/MWhr – (Correct Alternative) A4 : 30.5 Rs/MWhr	1.0	0.25
Objective Question				
74	74	In a simple method of checking the magnetization characteristics of a current transformer, A1 : An increasing sinusoidal voltage of standard frequency is applied to the secondary winding with the primary short circuited. A2 : An increasing sinusoidal voltage of standard frequency is applied to the secondary winding leaving the primary open circuited. – (Correct Alternative) A3 : A decreasing sinusoidal voltage of standard frequency is applied to the primary winding with the secondary short circuited. A4 : A decreasing sinusoidal voltage of standard frequency is applied to both primary and secondary winding	1.0	0.25
Objective Question				
75	75	The time duration for voltage sag as per IEEE standard is A1 : 0.5 cycle to 1 minute – (Correct Alternative) A2 : 0.5 cycle to 2 minute A3 : 1 cycle to 1 minute A4 : 1 cycle to 2 minutes	1.0	0.25
Objective Question				
76	76	Which is the largest amount of installed grid interactive renewable power capacity in India? A1 : wind power – (Correct Alternative) A2 : solar power	1.0	0.25

		A3 biomass power : A4 small hydro power :		
Objective Question				
77	77	The burning of traditional biomass or biomass related materials provides about ____ percentage of the world's energy consumption. A1 30% : A2 25% : A3 5% : A4 10% – (Correct Alternative) :	1.0	0.25
Objective Question				
78	78	Consider the following statements and choose the correct option. Statement 1: Natural gas and coal are two fuels used for electricity generation and their cross-price elasticity is positive. Statement 2: If the solar panel industry is competitive, the marginal firm makes zero profits in the long run. A1 Both Statement 1 and Statement 2 are TRUE – (Correct Alternative) : A2 Both Statement 1 and Statement 2 are FALSE : A3 Statement 1 is TRUE and Statement 2 is FALSE : A4 Statement 1 is FALSE and Statement 2 is TRUE :	1.0	0.25
Objective Question				
79	79	An emf source is present in the following sequence network. A1 positive – (Correct Alternative) : A2 negative : A3 Both Positive and Negative : A4 Positive, negative and zero :	1.0	0.25
Objective Question				
80	80	A shunt capacitor at 100 MVar is operated at 105% of its rated voltage and at 98% of its rated frequency. The reactive power produced by the capacitor is A1 108.045 MVar – (Correct Alternative) : A2 112.5 MVar : A3 102.9 MVar :	1.0	0.25

		A4 : 88.89 MVAr		
Objective Question				
81	81	Fig. shows currents in a 3-phase conductor. The ends of the system on the sides of the fault are identified as F, F', while the conductor ends are identified as aa', bb' and cc'. For two conductors open fault, the symmetrical components can be represented as A1 : $V_{aa'1} + V_{aa'2} + V_{aa'0} = 0$ $I_{a1} = I_{a2} = I_{a0} = \frac{I_a}{3}$ A2 : $V_{aa'1} = V_{aa'2} = V_{aa'0} = \frac{1}{3}V_{aa'}$ $I_{a1} = I_{a2} = I_{a0} = 0$ A3 : $V_{aa'1} + V_{aa'2} + V_{aa'0} = 0$ $I_{a1} = I_{a2} = I_{a0} = 3I_a$ A4 : $V_{aa'1} = V_{aa'2} = V_{aa'0} = \frac{1}{3}V_{aa'}$ $I_{a1} = I_{a2} = I_{a0} = \frac{I_a}{3}$	1.0	0.25
Objective Question				
82	82	Who designed and constructed the first working mechanical calculator? A1 : Wilhelm Schickard – (Correct Alternative) A2 : Steve John A3 : Adam Pascal A4 : Marie Jacquard	1.0	0.25
Objective Question				
83	83	The first IBM Personal computer Acron uses _____ operating system. A1 : UNIX A2 : LINUX A3 : MS-DOS – (Correct Alternative) A4 : WINDOWS	1.0	0.25

Objective Question				
84	84	The _____ operating system introduced by Apple provides Protected Memory Architecture benefit. A1 : Apple OS A2 : IOS A3 : Mac OS X – (Correct Alternative) A4 : I UNIX	1.0	0.25
Objective Question				
85	85	If your computer is not directly connected to a network but has a telephone or cable modem,then you can reach the Internet through _____. A1 : Internet Access Providers – (Correct Alternative) A2 : Network Access Providers A3 : Native Access Providers A4 : Data Access Providers	1.0	0.25
Objective Question				
86	86	The Computer memory keeps several jobs in memory simultaneously by maintaining them in a _____. A1 : Memory area A2 : Job pool – (Correct Alternative) A3 : Work spooler A4 : Task pool	1.0	0.25
Objective Question				
87	87	In Microsoft word the page break options are available under which ribbon? A1 : Print Layout ribbon -> Line break group A2 : Review ribbon -> Page setup group A3 : Print Layout ribbon -> Page setup group – (Correct Alternative) A4 : Review ribbon -> Print preview group	1.0	0.25
Objective Question				
88	88	Which type of section break helps you to start a new section on the same page? A1 : Continuous – (Correct Alternative)	1.0	0.25

		A2 : Next page A3 : Even page A4 : Odd page		
Objective Question				
89	89	A _____ is a list of sources, usually placed at the end of the document, which you consulted or cited in creating the document. A1 : Index A2 : Table of contents A3 : Bibliography – (Correct Alternative) A4 : Headings	1.0	0.25
Objective Question				
90	90	_____ is the act of secretly or stealthily listening to the private conversation or communications of others without their consent. A1 : Phishing A2 : ARP cache poisoning A3 : Eavesdropping – (Correct Alternative) A4 : Denial-of-service	1.0	0.25
Objective Question				
91	91	Statement A: A potential drawback to datagram forwarding is the possibility of a routing loop. Statement B: Routing loop refers to any intentional selection of one route over another, or any elevation of the priority of one class of traffic. A1 : Statement A is true and Statement B is false – (Correct Alternative) A2 : Statement A is false and Statement B is true A3 : Both the statements are true A4 : Both the statements are false	1.0	0.25
Objective Question				
92	92	અભ્યુદય' શબ્દનો પર્યાય શબ્દ જણાવો. A1 : અરુણોદય A2 : ઉજાસ	1.0	0.25

		A3 – (Correct Alternative) : ઉજ્જતિ A4 : સવાર		
Objective Question				
93	93	નીચે પૈકી કઇ વિરોધી શબ્દ-જોડી નથી? (1) કુપથ્ય X સુપથ્ય (2) ગહન X ગંભીર (3) નિરામય X રોગીષ્ટ (4) કથીર X કંચન A1 : (1) કુપથ્ય X સુપથ્ય A2 – (Correct Alternative) : (2) ગહન X ગંભીર A3 : (3) નિરામય X રોગીષ્ટ A4 : (4) કથીર X કંચન	1.0	0.25
Objective Question				
94	94	આંખ' પરના રુઢિપ્રયોગોમાં કયો એક રુઢિપ્રયોગ નથી? A1 : આંખ ઠરવી A2 – (Correct Alternative) : આંખો પટપટાવવી A3 : આંખે ચડવું A4 : આંખ મીંચામણા કરવા	1.0	0.25
Objective Question				
95	95	સ્વભાવ ક્યારેય બદલાતો નથી' એવો અર્થ કઇ કહેવતમાંથી મળતો નથી? A1 : ફૂતરાની પૂંછડી વાંકી તે વાંકી A2 : દોરડી બળે પણ વળ ન મૂકે A3 : પડી ટેવ ન ટળે A4 – (Correct Alternative) : સાપ ગયા અને લીસોટા રહ્યા	1.0	0.25
Objective Question				
96	96	શબ્દકોશ પ્રમાણે ગોઠવીએ તો કયો શબ્દ સૌપ્રથમ આવશે? A1 – (Correct Alternative) : ક્ષાર A2 : ગવન	1.0	0.25

		A3 : ખટરાગ A4 : ધનશ્યામ		
Objective Question				
97	97	બાપુજીના પત્રો: ગાંધીજી : :માણસાઇના દીવા : _____ A1 : કનૈયાલાલ મુનશી A2 : ગુણવંતરાય આચાર્ય A3 – (Correct Alternative) : ઝવેરચંદ મેઘાણી A4 : પન્નાલાલ પટેલ	1.0	0.25
Objective Question				
98	98	નીચેના વાક્યો વાંચો અને તે સાચાં કે ખોટાં તે જણાવો? 1. કપિલ ભણવામાં લક્ષ્ય આપતો નથી. 2. એકવાર સહકુટુંબ જમવા પધારો. A1 : વાક્ય 1 સાચું અને વાક્ય 2 ખોટું A2 – (Correct Alternative) : વાક્ય 1 ખોટું અને વાક્ય 2 સાચું A3 : વાક્ય 1 અને વાક્ય 2 બંને સાચાં A4 : વાક્ય 1 અને વાક્ય 2 બંને ખોટાં	1.0	0.25
Objective Question				
99	99	બધા સૈનિકે/ સેનાપતિને/ માન/ આપવું જોઇએ. આ વાક્યનો કયો ભાગ ખોટો છે? A1 – (Correct Alternative) : બધા સૈનિકે A2 : સેનાપતિને A3 : માન A4 : આપવું જોઇએ	1.0	0.25
Objective Question				
100	100	નીચેના વાક્યોનું રૂપાંતર કયા પ્રકારમાં થયું છે? 1. અમે વહેલા ઘરે પહોંચી ગયા> અમારાથી વહેલા ઘરે પહોંચી જવાયું. 2. મેં નિર્ણય કર્યો > મારાથી નિર્ણય કરાયો. A1 : વાક્ય 1 અને વાક્ય 2 કર્મણિ વાક્યરચના A2 : વાક્ય 1 કર્મણિ અને વાક્ય 2 ભાવે વાક્યરચના	1.0	0.25

		A3 – (Correct Alternative) : વાક્ય 1 ભાવે અને વાક્ય 2 કર્મણિ વાક્યરચના A4 : વાક્ય 1 અને વાક્ય 2 ભાવે વાક્યરચના		
Objective Question				
101	101	સંકુલ વાક્યમાં મુખ્ય વાક્ય ગૌણ વાક્ય સાથે કયા સંયોજનોથી જોડાયેલાં હોય છે? A1 : અને, તથા A2 : કે, અથવા A3 – (Correct Alternative) : જો...તો, જ્યારે...ત્યારે A4 : તેમ છતાં	1.0	0.25